What is claimed is:

1. A transponder arrangement for mounting in a tire defining an inner side, the transponder arrangement comprising:

a substrate;

a transponder embedded in said substrate and including a transponder chip and an antenna;

a connecting structure disposed between said substrate and said inner side of said tire;

said connecting structure being in the form of a soft or sliding support; and,

said substrate being decoupled from said inner side by said connecting structure in such a manner that no or only minimal stresses are transmitted to said substrate.

2. The transponder arrangement of claim 1, wherein said connecting structure is configured as a cushion support.

3. The transponder arrangement of claim 1, wherein said cushion support is a silicone layer.

4. The transponder arrangement of claim 2, wherein said cushion support is an air cushion, gel cushion or foam material cushion.

5. The transponder arrangement of claim 2, wherein said cushion support is made of cellular rubber.

6. The transponder arrangement of claim 2, wherein said cushion support has a leg-like or strut-like structure.

7. The transponder arrangement of claim 2, further comprising a patch covering said substrate and said cushion support; and, said patch being connected to said inner side of said tire.

8. The transponder arrangement of claim 7, further comprising a partition medium arranged between said substrate and said inner side of said tire; and, said substrate being disposed on said partition medium so as to be slideably movable thereon.

9. The transponder arrangement of claim 7, further comprising partition means disposed between said substrate and said patch.

10. The transponder arrangement of claim 7, wherein said patch is permeable to air at at least one location.

11. The transponder arrangement of claim 7, wherein said patch has a cavity containing a fluid and said substrate is supported in said fluid.

12. The transponder arrangement of claim 1, wherein said connecting structure is defined by at least one connecting leg for connecting said substrate to said inner side of said tire.

13. The transponder arrangement of claim 1, further comprising a latch or snap connection for connecting said substrate to said connecting structure.

14. The transponder arrangement of claim 1, wherein said substrate has an arcuately-shaped housing contour adapted to

said inner side of said tire.

15. The transponder arrangement of claim 1, further comprising a patch; said substrate being arranged in said patch; and, said patch being fixedly connected to said inner side of said tire only at one or several component regions.

16. The transponder arrangement of claim 1, further comprising a patch; and, a partition medium arranged between said patch and said inner side of said tire.

17. A tire comprising:

a tire wall having an inner side;

a transponder arrangement disposed is said tire;

said transponder arrangement including:

a substrate;

a transponder embedded in said substrate and including a transponder chip and an antenna;

a connecting structure disposed between said substrate and said inner side of said tire;

said connecting structure being in the form of a soft or sliding support; and,

said substrate being decoupled from said inner side by said connecting structure in such a manner that no or only minimal stresses are transmitted to said substrate.